ABSTRACT

ANALYSIS OF CHANGE IN NT-proBNP AFTER ANGIOTENSIN RECEPTOR BLOCKER (ARB) THERAPY IN PATIENT WITH HEART FAILURE

(Study in Cardiology Ambulatory Department of Dr. Soetomo Teaching Hospital)

BACKGROUND: NT-proBNP (N-Terminal pro Brain Natriuretic Peptide) is an inactive fragment of BNP (Brain Natriuretic Peptide*)* secreted by stretched ventricle as response to wall stress and elevated intracardiac pressure in patients with chronic heart failure. As a specific cardiac marker, elevated NT-proBNP correlates well with heart failure severity and class. The principle of heart failure therapy is modulation on neurohormonal activation, which activated in heart failure pathophysiology. One of the therapy that modulate neurohormonal is ARB. ARB can modulate neurohormon on RAA system, that result in decreasing NT-proBNP level and favorable outcomes. Reduction in NT-proBNP more than biologic variability (decrease > 25%) shows a therapy response.

OBJECTIVES: To analyze change of NT-proBNP after ARB therapy in ambulatory HF patients at Cardiology Ambulatory Department Dr. Soetomo Teaching Hospital.

METHODS: This observational prospective study was carried in Cardiology Ambulatory of Dr. Soetomo Teaching Hospital from September to December 2015. Blood sampling was performed on patients who meet the inclusion criteria of the study at first visit (baseline) and after 2 months therapy. NT-proBNP was measured by IMMULITE® as primary parameter and creatinin as secondary parameter.

RESULT: There are 14 patients met the inclusion criteria of the study (11 males and 3 females). ARB therapy used in patients were Valsartan (64%), Telmisartan (22%) and Candesartan (14%). After 2 months ARB therapy, a decrease in level of NT-proBNP with initial baseline median 3092.5 (216 – 32112) pg/ml to 2135.5 (350 – 16172) pg/ml respectively were statistically significant (p = 0,003). And the secondary parameter creatini serum convert to eGFR shows a change in eGFR with initial baseline median 73.33 (37.05 – 266.68) ml/minute to 81.04 (39.31 – 167.02) ml/minute respectively were statistically not significant (p = 0.657). There were 7 patients (50%) have a decrease > 25%.

CONCLUSION: In this study, we found that ARB therapy can change NT-proBNP level significantly after 2 months therapy.

KEYWORDS: Natriuretic Peptides; NT-proBNP; Heart Failure; Angiotensin Receptor Blocker